

REMARKS

Favorable reconsideration and allowance of this application are requested.

The amendments to the specification and claims presented above are believed to attend to the Examiner's informalities as helpfully identified on pages 2-6 of the Official Action. In this regard, it will be noted that the specification has been revised so as to conform the same to the drawing Figures and, as such, revised drawing Figures are not needed. Thus, withdrawal of all objections and the rejection advanced under 35 USC §112 is believed to be in order.

The only issue remaining to be resolved in this application is the Examiner's rejection of many of the prior claims under 35 USC §103(a) based principally on the combination of Reinhall and Gervasi. Lyengar, Smook and Henricson et al have been applied as secondary references to such principal combination to separately reject claims 7, 2 and 3, respectively under the same statutory provision. Henricson et al has been combined with Reinhall, Gervasi and Lyengar to reject claim 4 under 35 USC §103(a) while Reinhall, Gervasi and Campbell have been combined to reject claims 17-19 under this same statutory provision.

As will become clear from the discussion below, the combination of Reinhall and Gervasi is inappropriate against the claims pending herein for consideration. And the secondary references of record fail to cure such deficiency. As such, allowance of all pending claims is in order.

What should be particularly noted when reviewing the patentability of the present invention is that independent claims 1 and 26 recite the following significant limitation of:

“...pushing the layer of the thickened pulp by the cleaning member in an essentially axial direction along the filter surface to the discharge end of the pre-thickener apparatus,

while simultaneously allowing the essentially non-thickened pulp to flow through the apparatus from the feeding end to the discharge end via the space defined between the shaft and the cleaning member....” (emphasis added)

The Official Action at page 7 states that the first feature of the above-noted limitation is disclosed in Reinhall at column 2, lines 49-53. In this regard, applicants note that the Reinhall apparatus has a stirrer 36 comprising a shaft having a plurality of blades 40. According to Reinhall, pulp material collected on the interior wall of the cylindrical container 14 is scraped off by the blades 40. It seems that in the Reinhall apparatus therefore that ***no thickened pulp layer is pushed in essentially axial direction along the filter surface***. Instead, according to Reinhall, a pulp layer (if a layer is indeed formed) is broken by the blades which are stirring and scraping off, and the thickened pulp material is conveyed towards the grinding discs.

The Examiner argues that Reinhall does not disclose expressly simultaneously allowing the essentially non-thickened pulp to flow through the apparatus from the feeding end to the discharge end via the space between said cleaning member and a shaft of the apparatus. However, the examiner asserts that such a feature is disclosed by, and therefore rendered “obvious” from Gervasi at column 5, lines 29-34.

Applicants again emphatically dispute the Examiner’s conclusion that one skilled in the art would combine the Reinhall and Gervasi references as the Examiner has done. Specifically, those skilled in the art would clearly recognize simply because a “cleaning member” may be employed in both Reinhall and Gervasi, there are unmistakable technical issues that a skilled person would recognize which would preclude a conclusion that the “cleaning member” of one is equivalent to the cleaning member of the other. Such a picking and choosing of features among the prior art references without regard to technical evidence precluding combination is therefore not

based in a proper analysis under 35 USC §103(a), but instead appears to be based in an impermissible hindsight analysis.¹

First, it is essential to a proper analysis under 35 USC §103(a) to recognize the operation principle of the Gervasi apparatus which differs from that of Reinhall. In this regard, the Gervasi filter is a so-called precoat filter in which a precoat (e.g. diatomite) is first formed on the filter surface. The filter operates in such a manner that liquid with turbid particles is fed from above into the filter, and the filter cake is allowed to form on the precoat layer of the filter surface. The worm rotates slowly in close proximity to the filter surface and scrapes off the filter cake from the precoat layer (col. 3, l. 26-45). The filtered material is collected to the conical bottom portion of the device where the filtered material is removed via gate valve and suction pump only when the conical part is filled with the collected material (column 4, lines 48 through 58).

On the other hand, Gervasi discloses a filter which is described as follows:

"...to remove...a layer of cake equal in thickness to the excess formed above the precoat" (col. 2, lines 29-34), "...the filtration layer or bed, ..., is always maintained at a constant thickness sufficient to obtain..." (col. 2, lines 37-41), "...the filter cake, the thickness of which is kept constant during the filter operation..., said blades or worm having an adjustable outer diameter such that a filter of optimum thickness for filtering the liquid forms and is maintained..." (col. 3, lines 27-34), j.e., "The worm therefore enables the surplus cake...to be removed.." (col. 3, lines 36-38).

¹ The Federal Circuit regards hindsight as an insidious and powerful phenomenon and is a tempting, but forbidden zone in the inquiry of addressing the statutory obviousness standard. See, e.g., *Panduit Corp. v. Dennison Mfg. Co.*, 227 USPQ 337 (Fed. Cir. 1985) and *Loctite Corp. v. Ultraseal Ltd.*, 228 USPQ 90, 98 (Fed. Cir. 1985).

In other words, in the applicants' claimed method ***there is no precoat layer on the filter surface***, and the thickened pulp layer collected on the filter surface is removed. Gervasi does not teach to push the thickened pulp layer along the filter surface because the precoat layer would be broken, which is directly ***against*** the technical principle on which the Gervasi technique is based. Reinhall desires to remove the whole pulp layer from the filter surface -- Gervasi does not. The combination of Gervasi with Reinhall does not therefore improve the latter's system.

What is disclosed in Gervasi at column 5, lines 29-34 referred to by the Examiner is that the ***outer*** diameter of the worm and hence the thickness of the filter cake can be changed. So in Gervasi, the technical issue is about the distance between the worm and the filter surface -- ***not*** the space between the worm 9 and shaft 10, 11. In the applicants' apparatus, the non-thickened pulp flows in the open space between the shaft and the cleaning member (e.g. between the shaft 30 and the screw thread 32.²

The Official Action at page 10 further states that the motivation to use a cleaning member with a space between the shaft and the cleaning member is that it enables the surplus cake formed to be removed and conveyed to the bottom continuously as allegedly suggested by Gervasi at column 3, lines 37-39. However, the purpose of the space in the applicants' claimed method is not at all intended to enable surplus cake formed to be removed and conveyed to the discharge. The Examiner is again invited to re-read page 9, lines 19+ of the applicants' published PCT application.

Therefore, in view of the comments above, it should now be evident that the combination of Reinhall and Gervasi is inappropriate against the presently pending claims. In addition, the secondary references applied by the Examiner to allegedly show various claimed features fail to cure the deficiencies of Reinhall and Gervasi.

² Independent claims 1 and 26 have been clarified in this respect.

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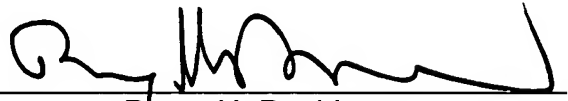
Thus, independent claims 1 and 26, and all claims dependent therefrom are in condition for allowance.

A favorable reply on the merits is therefore awaited.

Respectfully submitted,

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